

CLAIMS

What is claimed is:

1. A high voltage transformer, comprising:
a core that is surrounded by a plurality of coils to boost an alternating current voltage,
and that is grounded;
an output terminal that outputs the voltage boosted by the plurality of coils; and
an insulation member that is disposed between the output terminals and the core.
2. The high voltage transformer as set forth in claim 1, wherein the output terminal is connected to a secondary coil, and
wherein the plurality of coils include a primary coil and the secondary coil connected to a low voltage side and a high voltage side of the high voltage transformer, respectively.
3. The high voltage transformer as set forth in claim 1, wherein the insulation member allows an insulation distance between the output terminal and the core to be extended.
4. The high voltage transformer as set forth in claim 3, wherein the insulation distance is a roundabout distance extending from the output terminal to the core in a roundabout manner, the roundabout distance being greater than a straight-line distance between the output terminal and the core.
5. The high voltage transformer as set forth in claim 1, wherein the insulation member has a form of a plate.
6. The high voltage transformer as set forth in claim 1, wherein the insulation member is perpendicular to a winding direction of the plurality of coils.
7. The high voltage transformer as set forth in claim 1, further comprising a terminal support that fixes the output terminal thereon, wherein the insulation member is interposed between the terminal support and the core.

8. The high voltage transformer as set forth in claim 7, wherein the terminal support includes insulating paper.

9. The high voltage transformer as set forth in claim 1, wherein the insulation member includes a resin having properties of electrical insulation and heat resistance.

10. A microwave oven, comprising:
a power supply that supplies an alternating current voltage;
a high voltage transformer that boosts the alternating current voltage, and includes a core surrounded by a plurality of coils to boost the alternating current voltage and grounded, output terminal designed to output the voltage boosted by the plurality of coils, and an insulation member disposed between the output terminal and the core;
a magnetron that generates microwaves; and
a high voltage circuit unit that is electrically connected to a high voltage circuit unit, receives the voltage boosted by the high voltage transformer, and supplies a driving voltage to the magnetron.

11. The microwave oven as set forth in claim 10, wherein the insulation member allows an insulation distance between the output terminal and the core to be extended.

12. The microwave oven as set forth in claim 10, wherein the insulation distance is a roundabout distance extending from the terminal to the core in a roundabout manner, the roundabout distance being greater than a straight-line distance between the output terminal and the core.

13. The microwave oven as set forth in claim 10, wherein the insulation member has a form of a plate.

14. The microwave oven as set forth in claim 10, wherein the insulation member is perpendicular to a winding direction of the plurality of coils.

15. A high voltage transformer, comprising:
a core electrically connected to a potential;
a primary coil surrounding the core, the primary coil being connected to a low voltage portion of the high voltage transformer;
a secondary coil disposed near the primary coil, the secondary coil being connected to a high voltage portion of the high voltage transformer;
an insulating terminal support attached to the secondary coil;
an output terminal mounted on the insulating terminal support; and
an insulation member disposed between the secondary coil and the output terminal, wherein the insulation member effectively extends an electromagnetic distance between the output terminal and the secondary coil.

16. The high voltage transformer as set forth in claim 15, further comprising:
first and second insulating papers covering first and second sections of the secondary coil, respectively,
wherein the second insulating paper is disposed between the secondary coil and the insulation member.

17. The high voltage transformer as set forth in claim 16, further comprising:
a heater coil; and
a third insulating paper covering the first and second insulating papers,
wherein the third insulating paper is disposed between the secondary coil and the heater coil.

18. A high voltage transformer, comprising:
a laminated E core having at least one prong surrounded by a plurality of coils to boost an alternating current voltage, the laminated E core being connected to a potential;
a laminated I core in contact with the at least one prong of the laminated E core;
an output terminal that outputs the voltage boosted by the plurality of coils; and
an insulation member disposed between the output terminal and the laminated E core.

19. The high voltage transformer as set forth in claim 18, wherein the insulation member effectively extends an insulation distance between the output terminal and the laminated E core.

20. The high voltage transformer as set forth in claim 18, wherein the insulation distance is a roundabout distance extending from the output terminal to the laminated E core in a roundabout manner, the roundabout distance being greater than a straight-line distance between the output terminal and the laminated E core.